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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,074	06/16/2000	Kevin Wilson	55092 CCD	9748

7590 04/11/2003  
Christopher C Dunham  
c/o Cooper & Dunham LLP  
1185 Avenue of the Americas  
New York, NY 10036

EXAMINER

IMAM, ALI M

ART UNIT PAPER NUMBER

3737

DATE MAILED: 04/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/595,074

Applicant(s)

WILSON ET AL.

Examiner

Ali Imam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Request for Reconsideration***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Response to Arguments***

2. Applicant's arguments, see pages 1-3, filed 03/17/03, with respect to the rejection(s) of claim(s) 1-28 under 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of different interpretation of the previously applied references.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mendlein et al. (US 6,013,031) in view of Van der Spiegel et al. (US 5,254,504). Mendlein teaches in col. 1, line 57- col. 3, line 50, a method and apparatus for determining bone characteristics by steps and structures for disposing a pair of ultrasonic transducers (col. 2, line 47) made of polyvinylidene fluoride (col. 8, lines 45-47), ultrasonically coupling both transducers to a bone-containing animal portion (see Fig. 7C), electrically emerging the transducers to transmit by one and receive by the other transducer ultrasonic signals, detecting the signals and evaluating the signals for determining bone characteristics. In col. 1, line 17, Mendlein teaches that the method is being used for non-invasive assessment of bone status in patients with osteoporosis.

Mendlein fails to mention specifically that the piezoelectric transducer made of copolymer, e.g., copolymers of vinylidene fluoride and trifluoroethylene (P(VDF-TrFE)).

Van der Spiegel (hereinafter "Spiegel") teaches in col. 2, line 18, a piezoelectric transducer made of copolymer including P(VDF-TrFE). Spiegel further teaches that the use of copolymer of piezoelectric transducer enhance piezoelectric activity (col. 2, lines 18-19).

Spiegel is evidence that one of ordinary workers in the art of ultrasound bone testing method and apparatus would recognize the benefit of using a copolymer of piezoelectric transducer in ultrasound bone testing. Spiegel and Mendlein are combinable because they are from the same field of endeavor that is the uses of piezoelectric transducer for ultrasound medical systems and methods (see col. 1, lines 9-29).

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Therefore, it would have been obvious to an ordinary skill in the art at the time the invention was made to modify Mendlein's transducer such that it includes a copolymer of piezoelectric materials in order to enhance the piezoelectric activity of the bone testing device.

The specific limitations of the dependent claims are either obviously met by the disclosure or well known in the art of ultrasonic measurement systems.

### *Specification*

6. The disclosure is objected to because of the following informalities: please provide updated information of the U.S. Applications listed on page 7 lines 28-30 such as the patent nos. or whether they are abandoned .

Appropriate correction is required.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to show that the uses of copolymer piezoelectric transducer were well known at the time the invention was made. Even though polymer transducer is not structurally equivalent to copolymer transducer they are considered functionally equivalent at the time of the invention. See for example: col. 7, lines 60-65 of Proudian, deceased et al. (US 4,917,097); the abstract of Ohigashi et al. (US 4,424,465); col. 10, lines 28-31 of Hashimoto et al. (US 5,307,816); col. 5, line 4 of Dias et al. (US 5,511,296); col. 6, line 61 of Finsterwald et al. (US 6,038,752); col. 4, line 50 of Toda (US 6,307,302); or col. 13, line 33 of Shimoda et al. (US 6,420,190).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Imam whose telephone number is 703-305-0028.

The examiner can normally be reached on Mon. - Th., 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on 703-308-3256. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0758 for regular communications and 703-308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Ali Imam  
Examiner  
Art Unit 3737

AMI  
April 8, 2003